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ABSTRACT

The rapid growth in the educational usage of television in community and junior colleges has gone on largely unnoticed by a surprising number of faculty and administrators, despite the fact that two-year colleges are more likely candidates for its usage than four-year institutions. This is due to the heavy commitment which community colleges make to developing manipulative skills that lend themselves to visual presentation. Continuing growth in community college occupational programs will further substantiate the need for instructional television (ITV). Although the effectiveness of educational television (ETV) has been examined and disputed for over 40 years, ETV (the educational broadcasting sector) and ITV (the closed circuit sector) are worth the necessary investment of time and money for educational institutions that have a receptive faculty and student body, and can develop instructional programs to meet existing curricular needs and expand ITV capabilities. Nonetheless, before involving itself with these modes of instruction, an institution must consider compatability between college goals and objectives and televised instruction; administrative, faculty, and student needs for ETV; whether adequate long-term fiscal support for the program can be assured; whether the faculty will support ETV use; and if ready-made tapes are available or will have to be home-produced. A bibliography is included. (TR)

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THE COMMUNITY JUNIOR COLLEGE

AND

INSTRUCTIONAL TELEVISION

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The Community Junior College and Instructional Television

BACKGROUND

The current rapid growth in educational usage of television in the community/junior college has gone on largely unnoticed by a surprising number of faculty and administrators. By the late 1980's, essentially everyone in community/junior college education will have had exposure to the use of T.V. in education. This expected growth will probably not resolve the sometimes emotional debates over the cost, effectiveness and usage of educational television, it may intensify them.

The community/junior college is by no means isolated from these debates. In ~~fact,~~ the two year colleges are finding themselves more likely candidates for T.V. usage than the four year colleges because of the heavy committment which community/junior colleges make to development of manipulative skills which lend themselves to visual presentation. The continuing growth of the community/junior college occupational education programs will compound the problem.

The vendors of television equipment and software are moving aggressively into this market where many of their potential customers are not adequately informed about the use of T.V. in instruction. The paragraphs which follow should help the community college administrator to arrive at better decisions regarding the use of T.V. as an alternative delivery system for instructional programs.

Since television was first introduced to the consumer public, there have been wild expectations that the "new medium" would revolutionize education. The mid 1950's to the mid 1960's was the decade of educational television and with it came a shift in instructional media research emphasis from film to television. The shift resulted in numerous studies designed to evaluate the teaching/learning effectiveness of this new medium but the researchers apparently ignored similar studies conducted for film during and after World War II. Obviously, the results of these television studies were less conclusive than most television supporters had expected (Allen, 1971).

After the initial thrust in the 1950's and early 1960's, there was a reduced fervor over educational television until the 1970's, when miniaturization of electronic components led to lower costs for closed circuit television equipment and a highly competitive market. Lower costs and competitive markets however, are not sufficient reasons, by themselves, to move into the educational T.V. business. Other considerations need to be addressed.

In assessing the value of educational television in the community/junior college setting, it might be useful to define educational television, look at its teaching/learning effectiveness, its costs, the present state and near future of ETV, and draw some conclusions.

ETV- WHAT IS IT?

The educational television world is divided up in a variety of ways, but generally speaking, the taxonomy that divides educational television (ETV) into the educational broadcasting sector, and the closed circuit

sector (instructional television - ITV) is the most appropriate for this paper.

The educational broadcasting sector is that non-commercial or public sector that sends its signal out over the airways for open reception with no intent for feedback from the audience. This sector is controlled by the Federal Communications Commission through very tight regulations.

The ITV sector is that sector that encompasses cable television, microwave, multipoint distribution, Instructional Television Fixed Service (ITFS), and Applications Technology Satellites (ATS). Almost all of the in-house instructional television (ITV) facilities do have program feedback requirements, or a formal instructional purpose within the institution (Advisory Council of National Organizations, 1975; Murphy and Gross, 1966).

EFFECTIVENESS

The effectiveness of ETV has been examined and disputed for over forty years. Along with a wealth of research data, the personal experiences of many people point out that generally speaking, there is no significant difference between the teaching/learning effectiveness of television instruction and traditional classroom instruction, or any other medium for that matter (Chu and Schramm, 1968). However, Berkman points out that research findings show that even at its worst, "television instruction could teach at least as well as what normally passes for instruction in the classrooms of America!" (Berkman), 1976). There are, of course, variables among different subjects concerning ETV effectiveness. For instance, ETV has been more effective in the manipulative skills, and less effective in the writing/talking skills (Schramm, 1962).

The effectiveness of ETV has been frequently demonstrated in military training programs (Allen, 1971), and more recently in industrial/corporate training programs. The hard core traditionalist may look down on these two areas of education, but the vocational/occupational programs of many community/junior colleges relate well to the military and industrial/corporate training programs.

Variations in attitudes also play an important role in the effective use of television based instruction. Chu and Schramm, (1968), report that generally, administrators are more favorable towards television instruction than are faculty members. Evans conducted an extensive study of faculty resistance to television instruction, and found that the more involvement the faculty has with the preparation and production of the instructional television program, the more favorable they become towards the medium (Evans, 1968).

Among college students, though, the attitudes toward television instruction are generally unfavorable, (Chu and Schramm, 1968). Berkman is among those who say that this unfavorable student response is in large part due to the unimaginative and boring programs from which the students are expected to learn (Berkman, 1976). College students do, however, prefer small television classes to large lecture classes (Chu and Schramm, 1968). Also, Chicago's T.V. College got very favorable responses from homebound or officebound students (Willis, Masiko, and Erickson, 1960).

Obviously, then, under certain conditions ETV is an effective teaching/learning tool. Meeting those conditions requires faculty acceptance and proper planning and utilization of the medium.

IT TAKES MONEY

ETV operations are expensive, no matter how one looks at them. Costs range from as little as $2000 to as much as several million dollars. The broadcast sector is obviously the most costly, requiring facilities, equipment, and personnel of considerably higher quality than that required by closed circuit facilities. A small broadcast station with a range of 15 miles and a staff of 20 might cost $500,000 for capital outlay, $50,000 for operating costs, and $250,000 for staff, while a large broadcast station with a range of 50 miles and a staff of 50 might cost $2,500,000 for capital outlay, $200,000 for operating cost, and $600,000 for staff (Nelson, 1962).

A closed circuit facility might be nothing more than a portable black-and-white camera and recorder, which are used by existing faculty and/or students at a cost of less than $2000. However, an adequate facility requires considerably more in equipment and staff. At the low end of this scale might be a three man studio with $30,000 for capital outlay, $20,000 for other expenses, and $30,000 for salaries. At the other end is the major closed circuit television studio with 20 employees, $500,000 in capital outlay, $319,000 in other expenses, and $278,000 in salaries (Robson, 1976; Cartwright, 1978). For an indication of personnel required, and the approximate salaries for both a small and a major studio, refer to Table 1.

One thing that is continually overlooked by administrators is the maintenance and system update costs of the ETV system. Without adequate funding for maintenance, parts, and updated equipment, an ETV system will become obsolete within 4-5 years. Obsolescence increases maintenance costs,

and seriously erodes the morale of the studio staff, particularly top notch television engineers who are difficult to find, and vital to any television operation. A good rule of thumb for annual maintenance and equipment update costs would be at least 15-20% of the total capital outlay.

In order for the educational broadcasting station to be cost effective, there must be a large enough potential viewing populace to attract adequate viewers. The T.V. College of Chicago is a prime example with a potential 6-1/2 million viewers. Zigerell reports that Chicago's T.V. College has maintained a level of enrollment high enough to keep costs of television instruction per credit hour consistently below those of conventional instruction (Zigerell, 1976).

However, Scarborough College in Toronto, set up on the premis that a television college could be cost effective, resulted in a failure. According to the elaborate Scarborough plan, each instructor would spend a maximum of three hours in videotape production for each hour of taped lecture. This tape would be used for a minimum of three years for a student body of at least 5000. The plan failed not only because of faculty resistance, but also because of low enrollments.

In a different vein, Carl questions the validity of audience size as an indicator of cost effectiveness. She proposes that cost effectiveness should be a measure of the benefits rather than the audience size (Carl, 1976).

In an effort to spread out the costs for broadcast capabilities, consortia are developing at the suggestion of the Corporation for Public Broadcasting (Allen, 1971). A prime example is the successful Southern

California Consortium, a group of twenty community colleges bound together in an agreement to share the costs of television instruction (Wilber, 1972).

Cartwright, addressing the health media field and particularly hospitals, discusses three ways to justify the heavy expenditure of television instruction (Cartwright, 1978). The first is to compare the cost of individual video programming to the cost of alternative instructional delivery methods. The second is to examine the cost per individual program, as does Robson. The third and perhaps, the best way is to calculate the cost per employee viewing.

The industrial/corporate sector, after avoiding ITV for some time, is now an "awakening giant". Management has finally found that ITV is cost effective for training programs, management communications, and public relations. The key work for this group of ITV users is cost effectiveness which is made possible through the low cost, high quality color video systems currently on the market (Brush and Bruch, 1977).

Robson, speaking to the industrial/corporate sector, points out that for closed circuit television, a small, three man studio with an operating budget of $80,000 is capable of turning out at least 14 high quality tapes a year at the reasonable cost of $5500 per tape, while a major studio of 20 employees and an operating budget of $700,000 would have to turn out 140 tapes a year to get the costs down to $5000 per tape (Robson, 1976). These figures are as appropriate for the academic ITV sector as they are for the industrial/corporate ITV sector.

With the multitude of approaches and formulas for cost effectiveness, it all boils down to the money value per viewer hour with the cut-off

determined by the individual institution and its needs and resources.

FUNDING

Funding for ETV is extremely varied. Generally, the educational broadcasting stations receive support from a variety of sources in varying combinations and amounts. These sources include the federal government, state government, local school districts, state universities, national foundations, subscribers and individuals, auctions, and station production incomes (Tressel, Buckelew, Suchy, and Brown, 1975).

The closed circuit television sector is funded from similar sources but with different percentages, usually less federal support, and more state and local support.

PRESENT STATE OF THE ART AND THE NEAR FUTURE

Contrary to many reports, ETV is not faltering in the quagmire of academic traditionalism, rather, educational broadcasting is continuing to grow in quantity and quality. The use of satellites has greatly expanded the coverage of ETV to include the farthermost reaches of the world. Consortia have cut costs and expanded usage. Instructional Television Fixed Service (ITFS) was established in the 60's by the FCC to provide a higher frequency band for instructional users, in order to relieve conventional broadcast channels. While ITFS was a big step forward, it was little used because of high costs. The recent introduction of the Multipoint Distribution Service is now giving ITV users a less expensive option over ITFS, and is of particular interest to the community/junior college because of its low costs and useful 15-20 mile range. There is also an expanding use of cable T.V. in the educational arena.

Television equipment itself is getting better, smaller, more reliable, and more economical. With an almost unlimited range of instructional programs in the 3/4" videocassette format, individual and small group learning is on the upswing. This format allows continual replay, stop frame, random access, and two track audio. The Sony Betamax 1/2" color videocassette system and its competitors are offering some substantially greater advantages over the 3/4" videocassette in terms of program distribution and may replace 3/4". Not yet on the market is the videodisc and its promise of low cost distribution, but according to Paulson (1978), its future is foggy. Just around the corner is the Sony videocard, a flexible plastic card 2" by 8", which is waiting in the wings possibly to outstrip the videodisc in usage. Fiberoptic cable and the laser beam offer considerable potential cost savings, and an increase in quality to closed circuit users. There is ample cause to be optimistic about the future of video equipment and its capabilities.

CONCLUSION

It seems that ETV, or more specifically ITV, is worth the necessary investment of time and money for the educational institution that has a receptive faculty and student body and can develop instructional programs which curricular needs can use the existing and expanding capabilities which ITV has to offer.

However, before any institution involves itself with television instruction, there are several questions that need to be answered.

1. What are the institution's goals and objectives, and can television instruction support those goals and objectives?

2. What are the administrative, faculty, and student needs for ETV?
3. Can the institution adequately fund start up costs and assure necessary long term fiscal support?
4. Will the faculty support and use ETV?
5. Are there adequate ready-made tapes available outside the institution, or do all tapes need to be "home grown"?

These are just some of the questions that need answering before an institution steps off into the apparent utopia of educational television. It is a wise institution that makes a thorough attempt to answer those questions with authority and honesty, and thereby avoids becoming disillusioned with educational television.

TABLE 1 - STAFF REQUIREMENTS (ROBSON, 1976)

Small Studio Staff

1 combination secretary, artist, camera operator	$ 6,000
1 combination producer-director, writer, production manager	$ 13,000
1 combination technician, camera operator, photographer, lighting technician	$ 11,000
3 employees.....Total	$ 30,000

Large Studio Staff

4 combination producer-directors/writers at $16,000 ea	$ 64,000
2 graphic artists at $12,000 ea	$ 24,000
1 chief engineer	$ 17,000
1 manager	$ 28,000
3 technicians at $14,000 ea	$ 42,000
5 operating crew members at $12,000 ea	$ 60,000
1 secretary-production assistant	$ 10,000
3 duplication, shipping clerks at $11,000 ea	$ 33,000
20 employees.....Total	$278,000

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